In the Claims

Please amend Claims 1, 7, 9, 13, 14, and 17 as follows:

1. (Currently Amended) A method of culturing primate embryonic stem cells in defined media without serum, the method comprising:

culturing the primate embryonic stem cells in a culture medium containing albumin, amino acids, vitamins, minerals, at least one transferrin or transferrin substitute, and at least one insulin or insulin substitute, the culture medium being essentially free of mammalian fetal serum and containing exogenously supplied ~~mammalian~~ human fibroblast growth factor that is supplied from a source other than just a fibroblast feeder layer, so that the stem cells proliferate in culture and remain undifferentiated in the absence of serum in the medium.

2. (Original) The method of claim 1, wherein the culture is essentially free of any animal serum.

3. (Original) The method of claim 2, wherein the culture also comprises a fibroblast feeder layer.

4 (Original) The method of claim 2, wherein the fibroblast growth factor is basic fibroblast growth factor.

5. (Original) The method of claim 4, wherein the fibroblast growth factor is human basic fibroblast growth factor which has been produced from a recombinant gene.

6. (Original) The method of claim 2, wherein the primate embryonic stem cells are human embryonic stem cells.

7. (Currently Amended) ~~The method of claim 2, wherein~~ A method of culturing primate embryonic stem cells in defined media without serum, the method comprising:

culturing the primate embryonic stem cells in a culture medium containing albumin, amino acids, vitamins, minerals, at least one transferrin or transferrin substitute, and at least one insulin or insulin substitute, the culture medium being essentially free of mammalian fetal serum and containing exogenously supplied mammalian fibroblast growth factor that is

supplied from a source other than just a fibroblast feeder layer, said culturing step ~~includes~~ being conducted for over one month with the embryonic stem cells proliferating in culture ~~for over one month~~ while maintaining the potential of the stem cells to differentiate into derivatives of endoderm, mesoderm, and ectoderm tissues, and while maintaining the karyotype of the stem cells.

8. (Original) The method of claim 2, wherein the human basic fibroblast growth factor is present in the culture in a concentration of at least .1 ng/ml for at least a portion of the method.

9. (Currently Amended) A method of culturing primate embryonic stem cells in defined media without serum, the method comprising:

culturing the stem cells in a culture medium containing albumin, amino acids, vitamins, minerals, at least one transferrin or transferrin substitute, and at least one insulin or insulin substitute, the culture medium being essentially free of mammalian fetal serum and in the presence of a fibroblast growth factor capable of activating a fibroblast growth factor signaling receptor, wherein the growth factor is exogenously supplied to the culture from a source other than just a fibroblast feeder layer, so that the stem cells proliferate in culture and remain undifferentiated in the absence of serum in the medium.

10. (Original) The method of claim 9, wherein the culture is essentially free of any animal serum.

11. (Original) The method of claim 10, wherein the culture also comprises a fibroblast feeder layer.

12. (Original) The method of claim 10, wherein the primate embryonic stem cells are human embryonic stem cells.

13. (Currently amended) ~~The method of claim 10, wherein~~ A method of culturing primate embryonic stem cells in defined media without serum, the method comprising:

culturing the primate embryonic stem cells in a culture medium containing albumin, amino acids, vitamins, minerals, at least one transferrin or transferrin substitute, and at least

one insulin or insulin substitute, the culture medium being essentially free of mammalian fetal serum and in the presence of a fibroblast growth factor capable of activating a fibroblast growth factor signaling receptor, wherein the growth factor is exogenously supplied to the culture from a source other than just a fibroblast feeder layer, said culturing step ~~includes~~ being conducted for over one month with the embryonic stem cells proliferating in culture ~~for over one month~~ while maintaining the potential of the stem cells to differentiate into derivatives of endoderm, mesoderm, and ectoderm tissues, and while maintaining the karyotype of the stem cells.

14. (Currently Amended) A culture system for culturing primate embryonic stem cells in the absence of serum, comprising:

a fibroblast feeder layer;

serum replacement including albumin, vitamins, minerals, insulin, and transferrin; and

fibroblast growth factor exogenously supplied to the culture by other than just the fibroblast layer;

wherein the culture system is free of added animal serum, the serum replacement with fibroblast growth factor enabling the stem cells to proliferate in culture and remain undifferentiated in the absence of serum in the medium.

15. (Withdrawn) A cell line derived using the method of claim 1.

16. (Withdrawn) A cell line derived using the method of claim 9.

17. (Currently Amended) In a method of culturing primate embryonic stem cells without serum, the improvement comprising:

culturing the primate embryonic stem cells in a culture free of added mammalian fetal serum but including albumin, vitamins, minerals, insulin, and transferrin, and in the presence of fibroblast growth factor that is exogenously supplied to the culture from a source other than just a fibroblast feeder layer, so that the stem cells proliferate in culture and remain undifferentiated in the absence of serum in the medium.